

FIG. 1

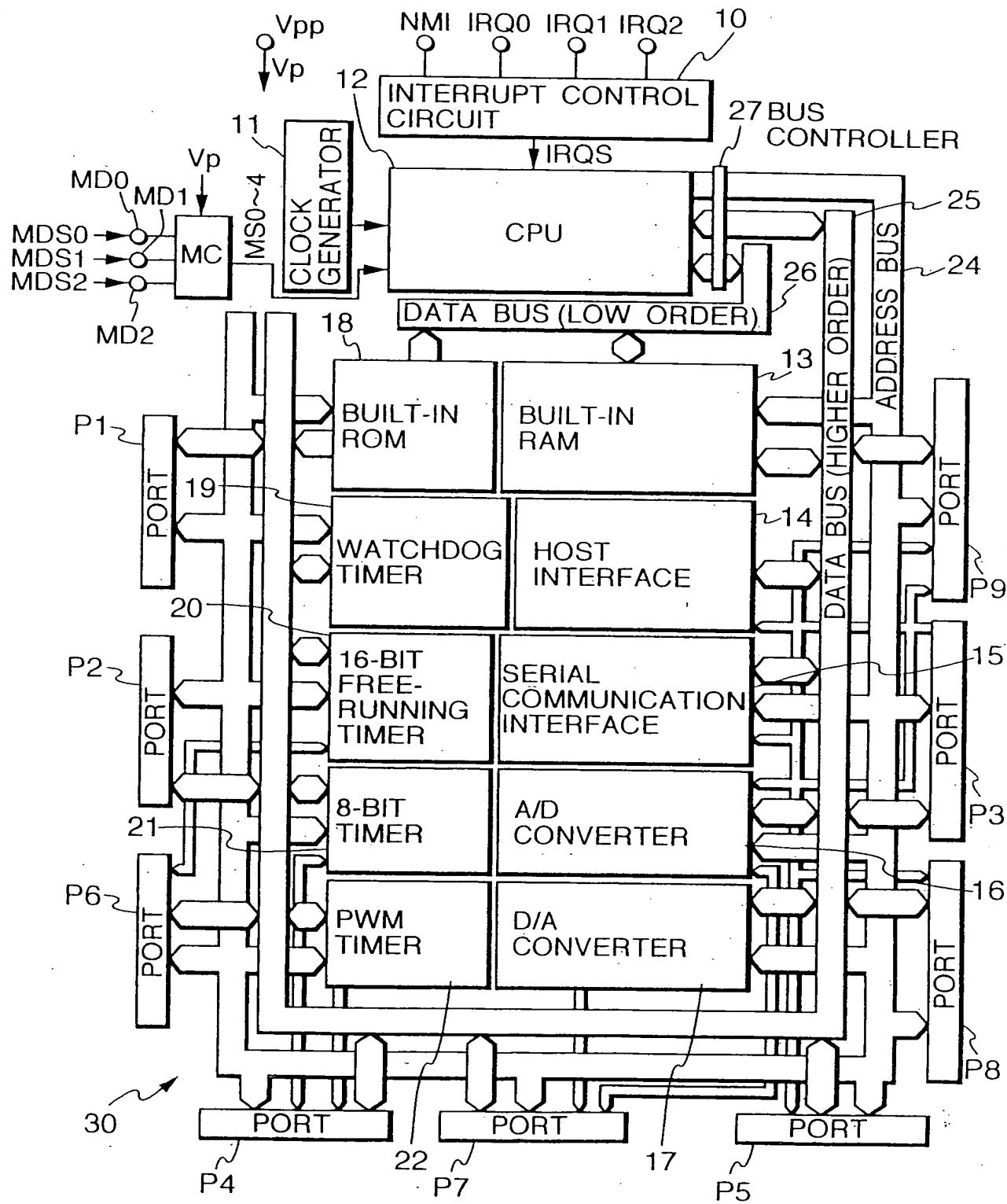


FIG. 2

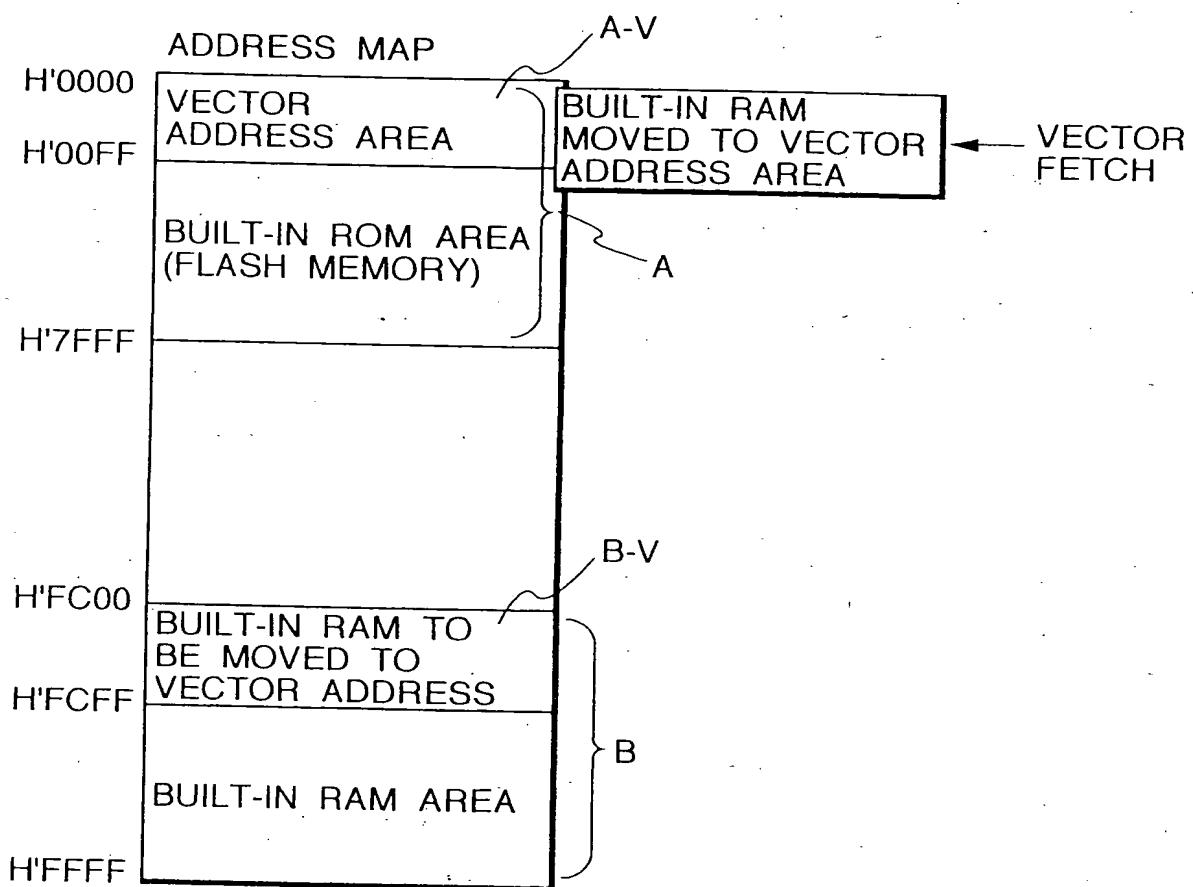


FIG. 3

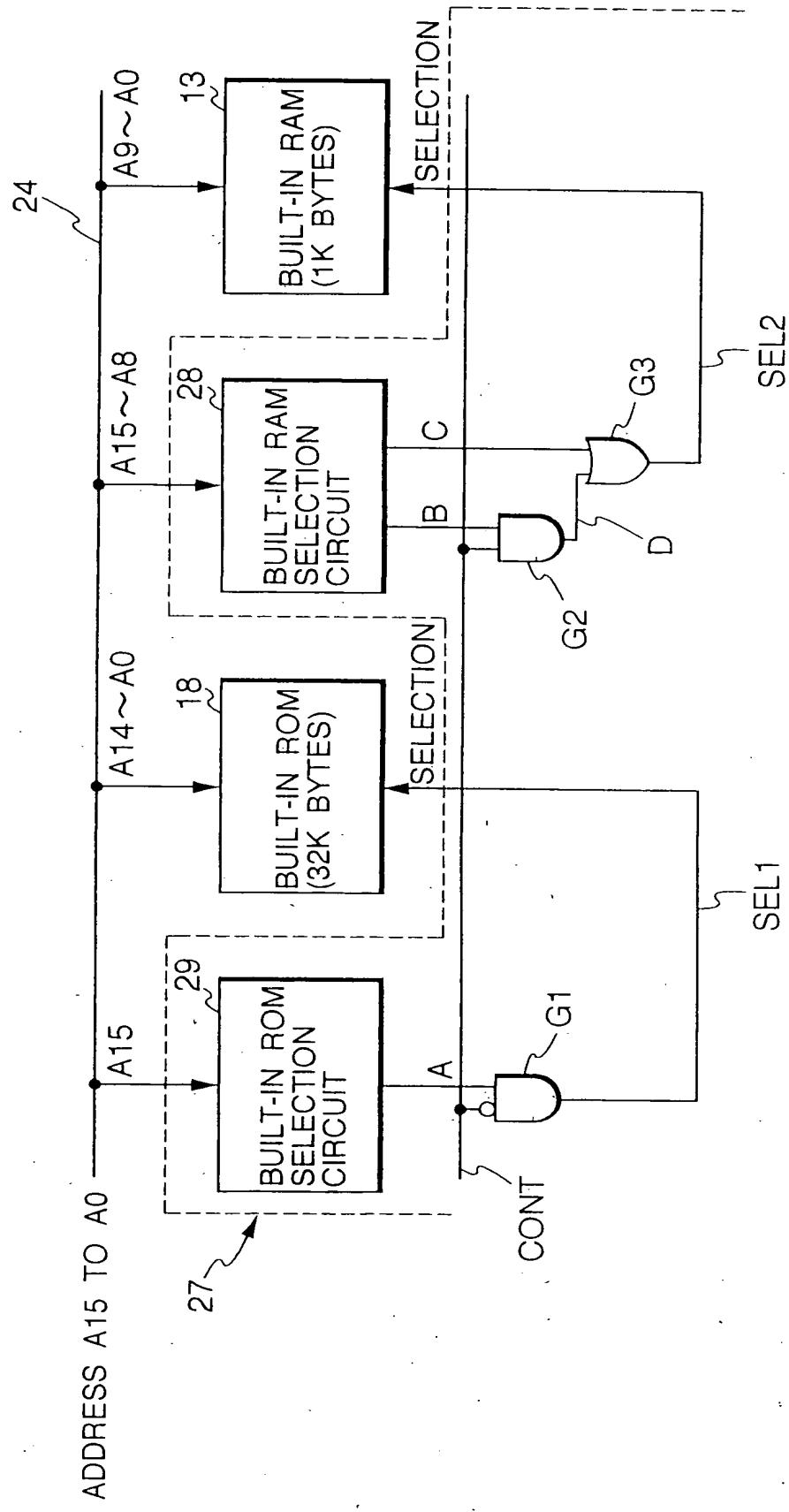


FIG. 4

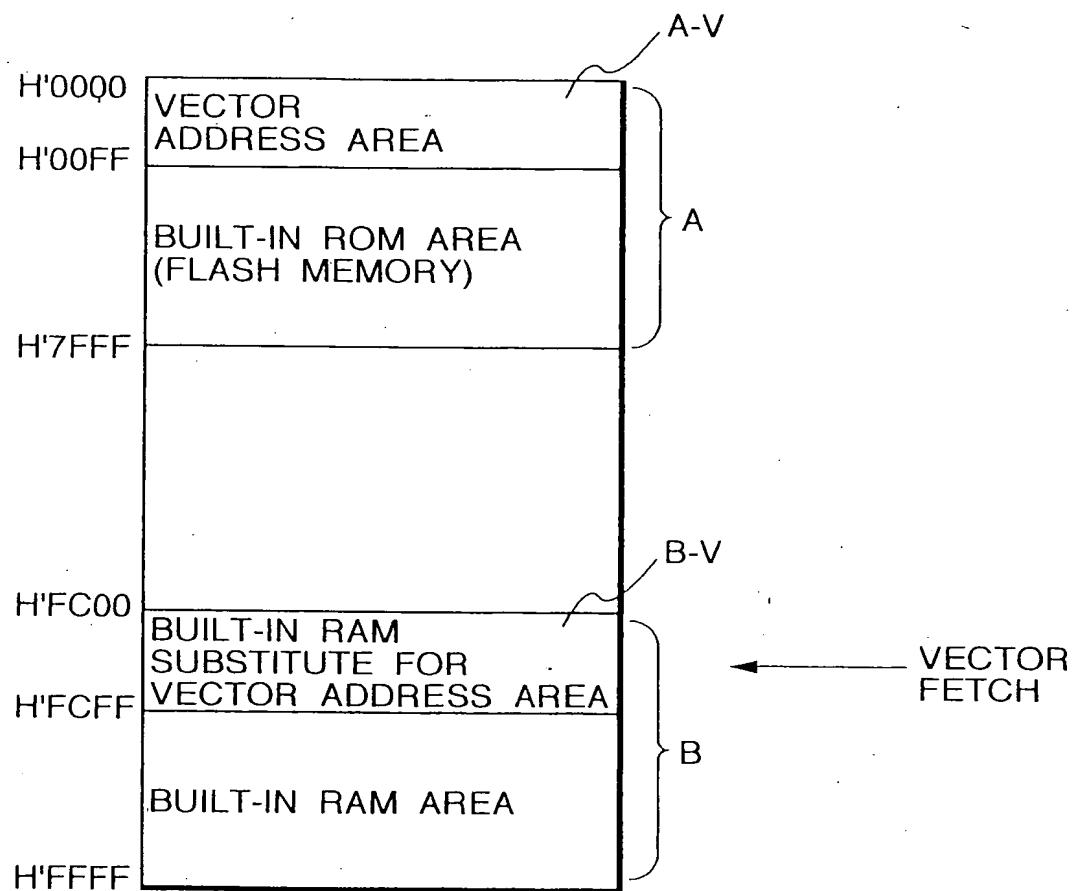
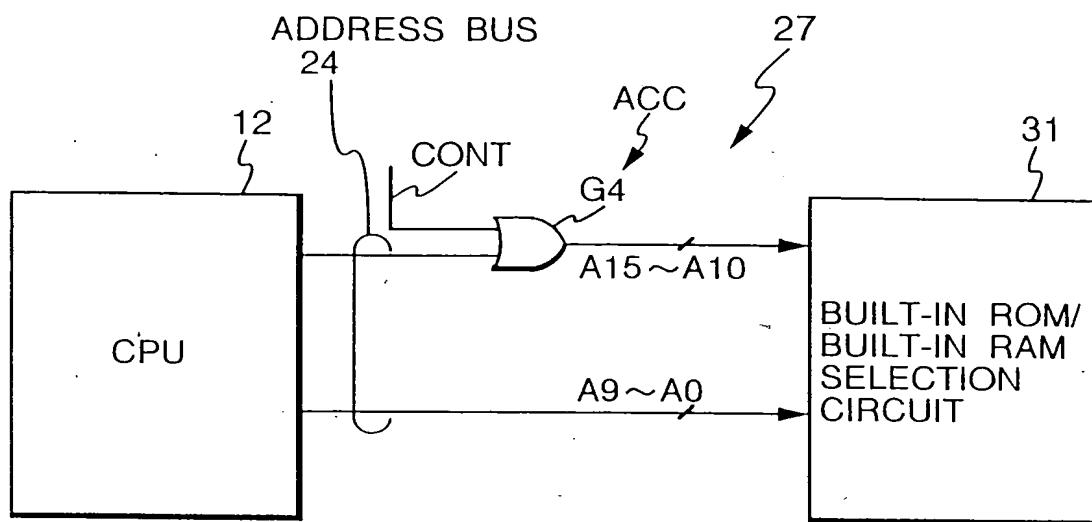


FIG. 5



0000 0000 xxxx xxxx → 1111 1100 xxxx xxxx

FIG. 6

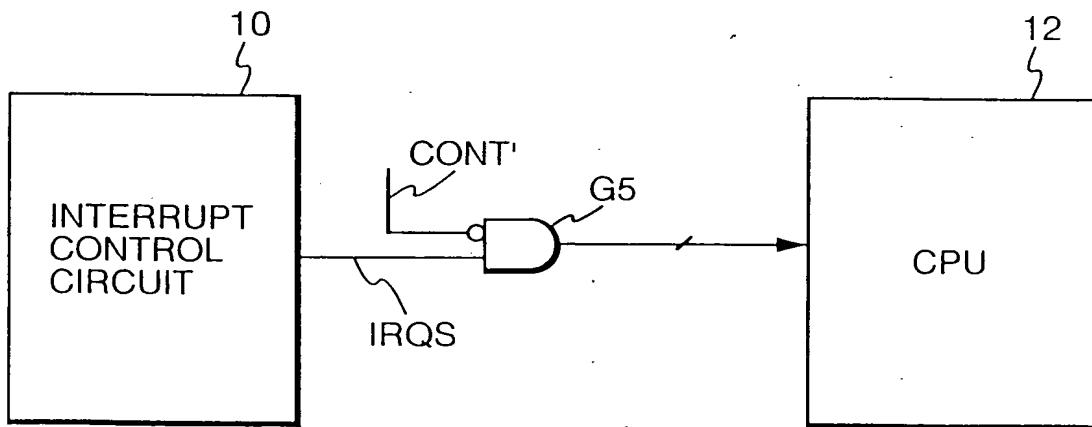


FIG. 7

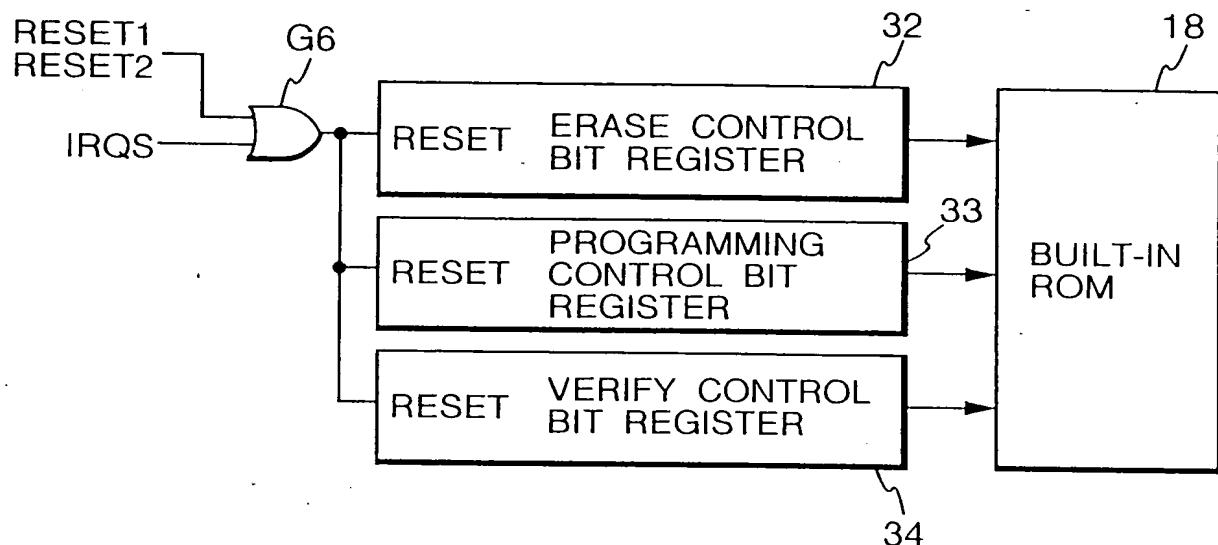
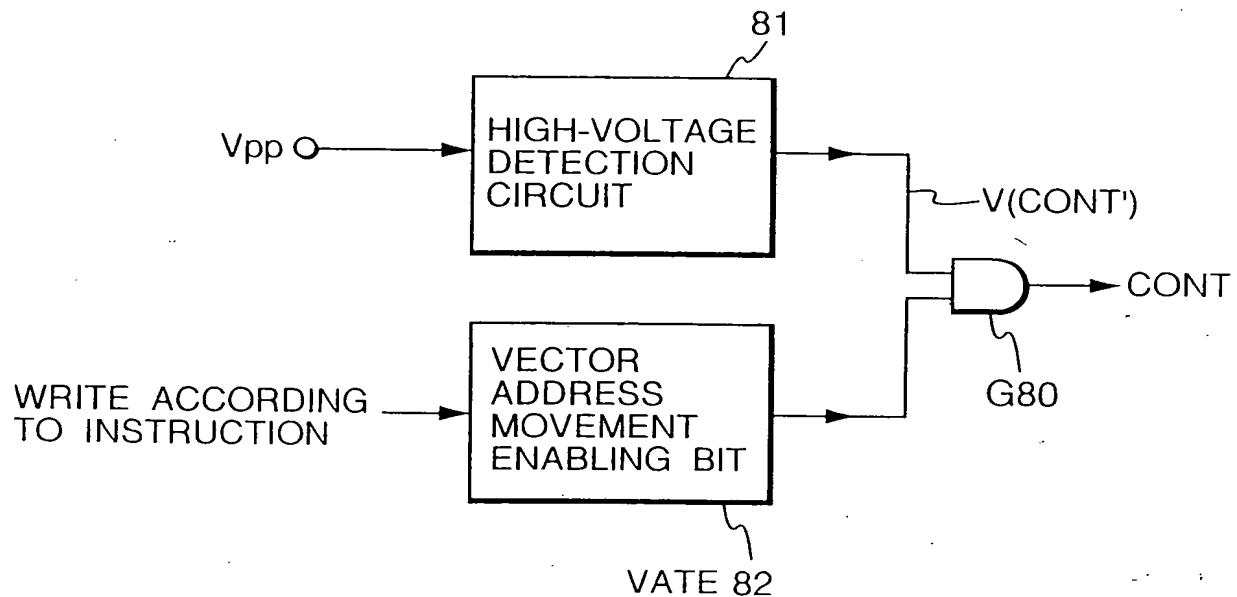
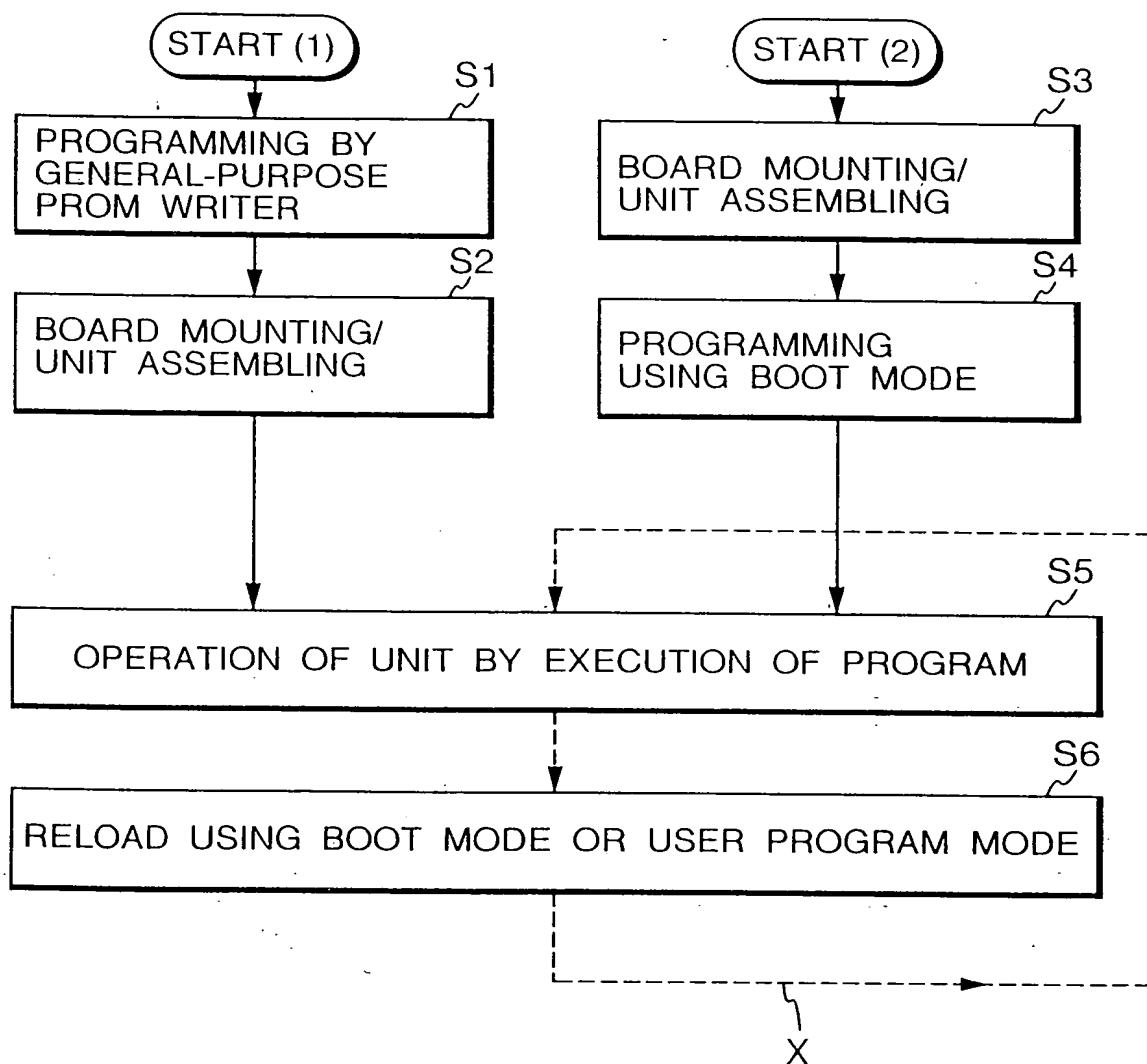


FIG. 8



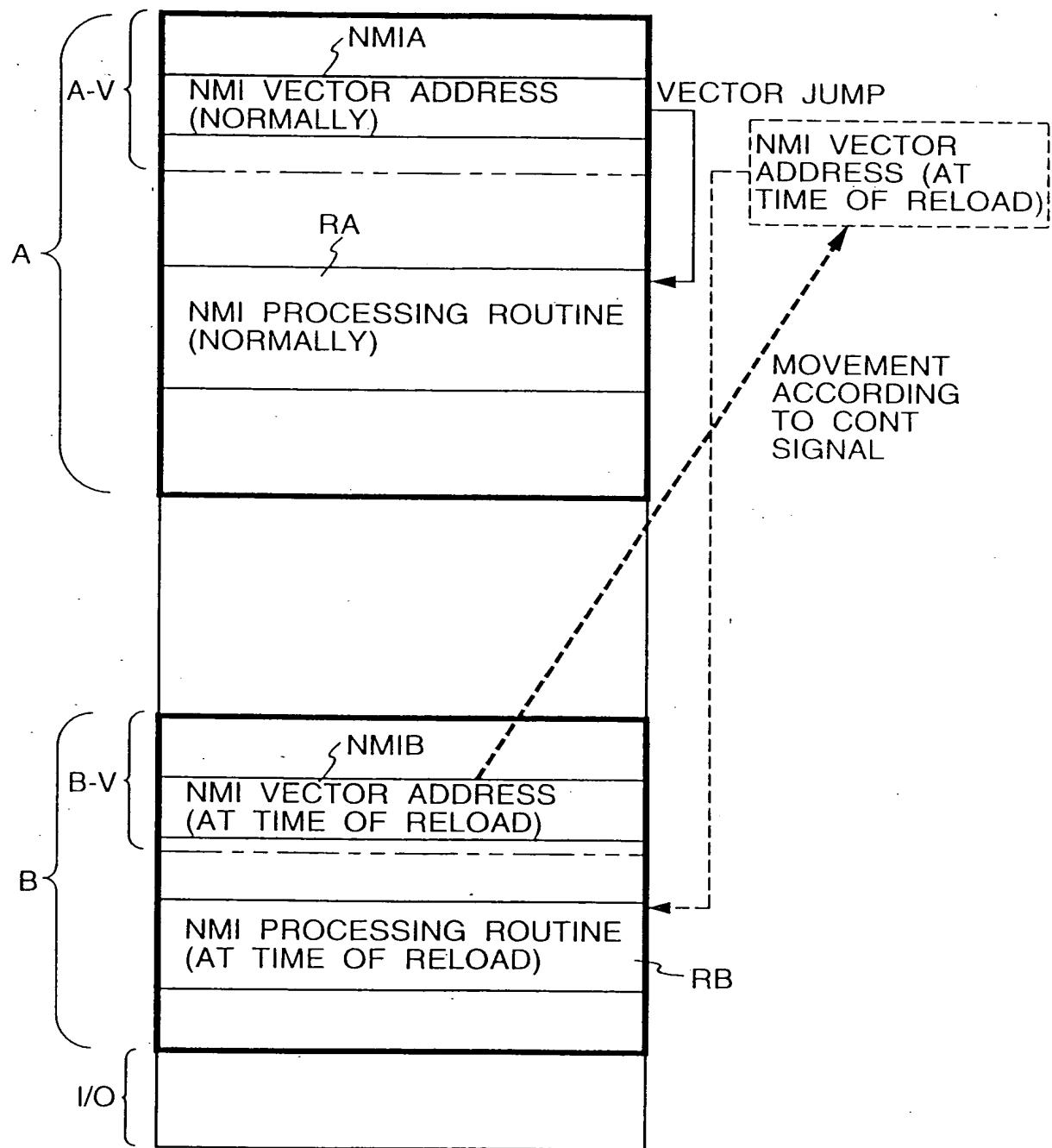
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FIG. 9



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FIG. 10



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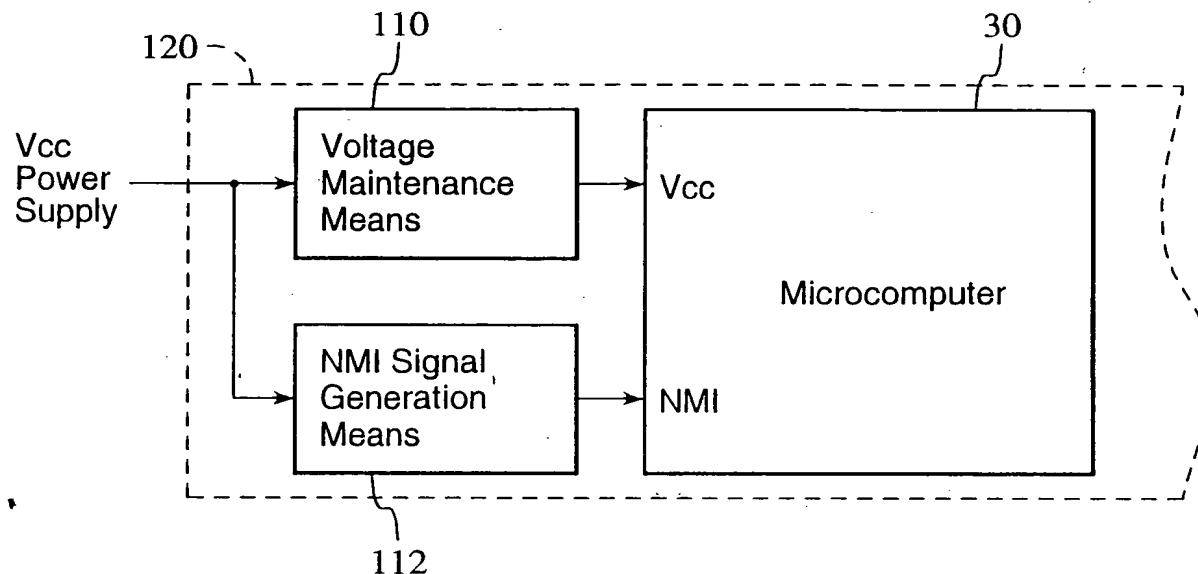


FIG. 11

PRINCIPLE OF FLASH MEMORY

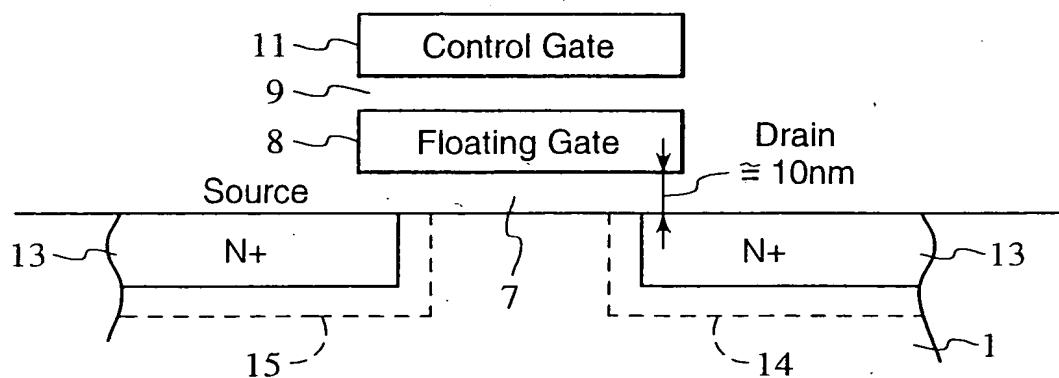
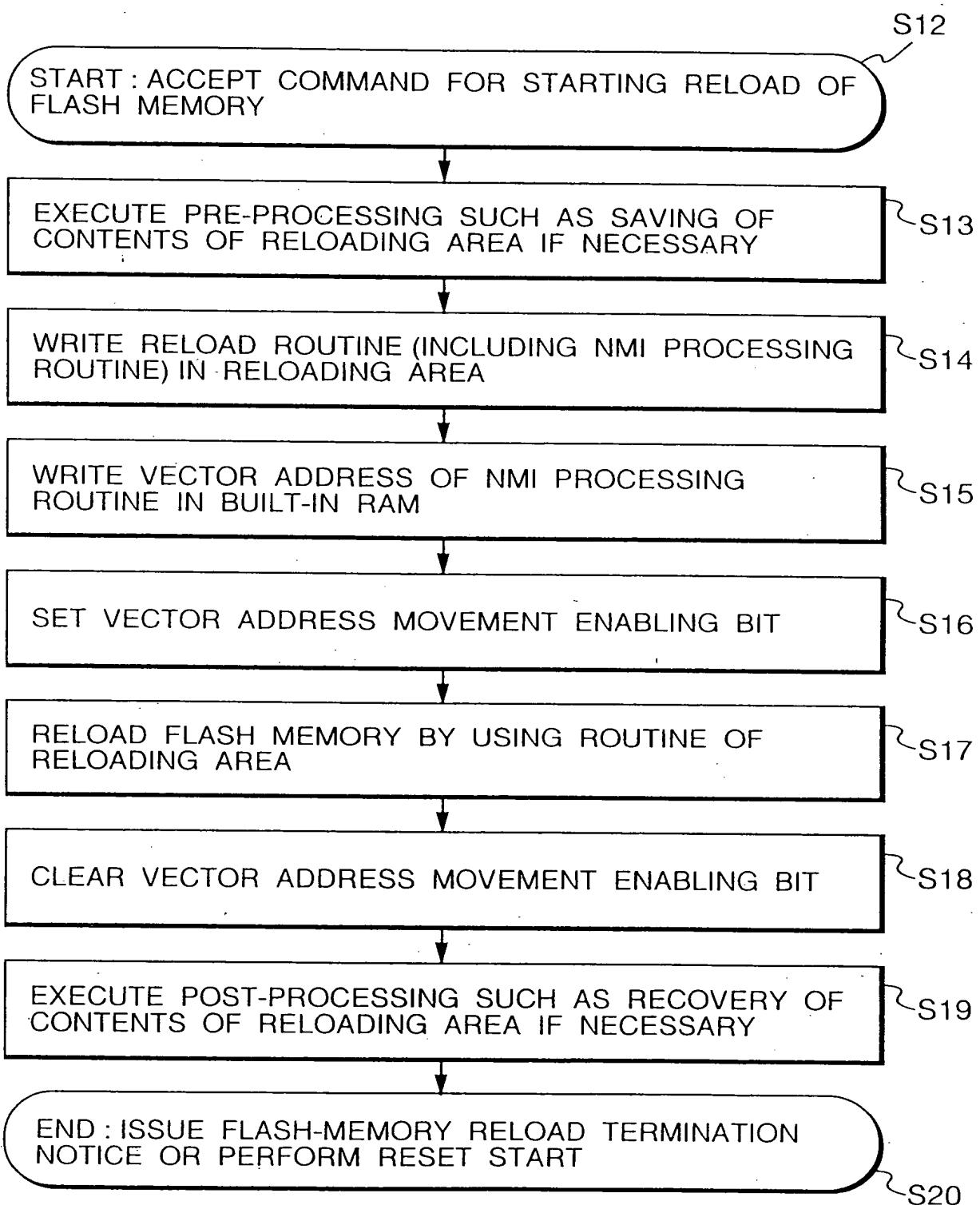


FIG. 13

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FIG. 12



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FIG. 14

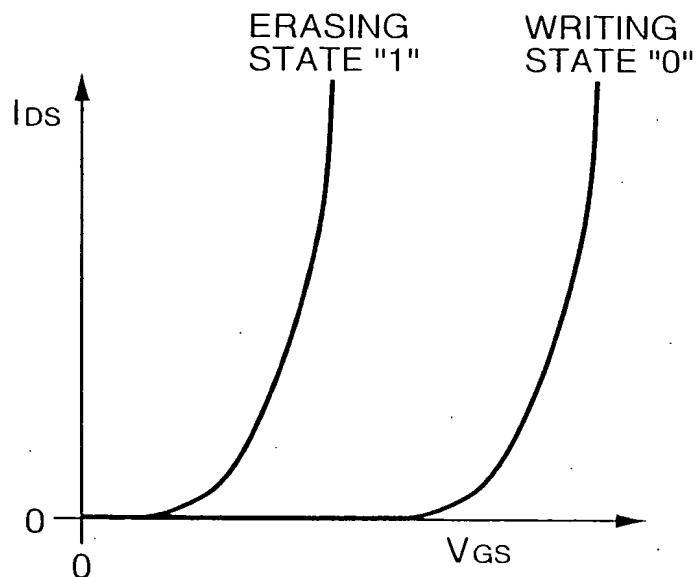
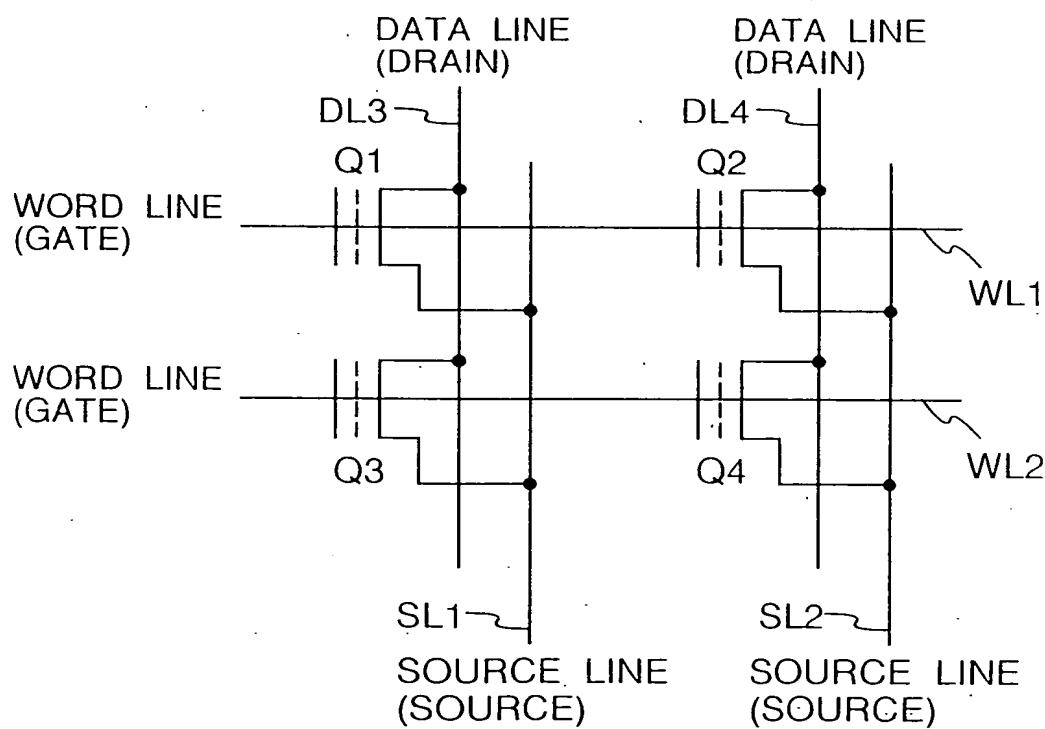


FIG. 15



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FIG. 16

WRITE

MEMORY DEVICE	SELECTIVE/ NON-SELECTIVE	SOURCE	DRAIN	GATE
Q1	SELECTIVE	0v	6v	12v
Q2	NON-SELECTIVE	0v	0v	12v
Q3	NON-SELECTIVE	0v	6v	0v
Q4	NON-SELECTIVE	0v	0v	0v

ERASE (POSITIVE VOLTAGE SYSTEM)

MEMORY DEVICE	SELECTIVE/ NON-SELECTIVE	SOURCE	DRAIN	GATE
Q1,Q3	SELECTIVE	12v	0v	0v
Q2,Q4	NON-SELECTIVE	0v	0v	0v

ERASE (NEGATIVE VOLTAGE SYSTEM)

MEMORY DEVICE	SELECTIVE/ NON-SELECTIVE	SOURCE	DRAIN	GATE
Q1,Q2	SELECTIVE	5v	0v	10v
Q3,Q4	NON-SELECTIVE	5v	0v	0v

FIG. 17

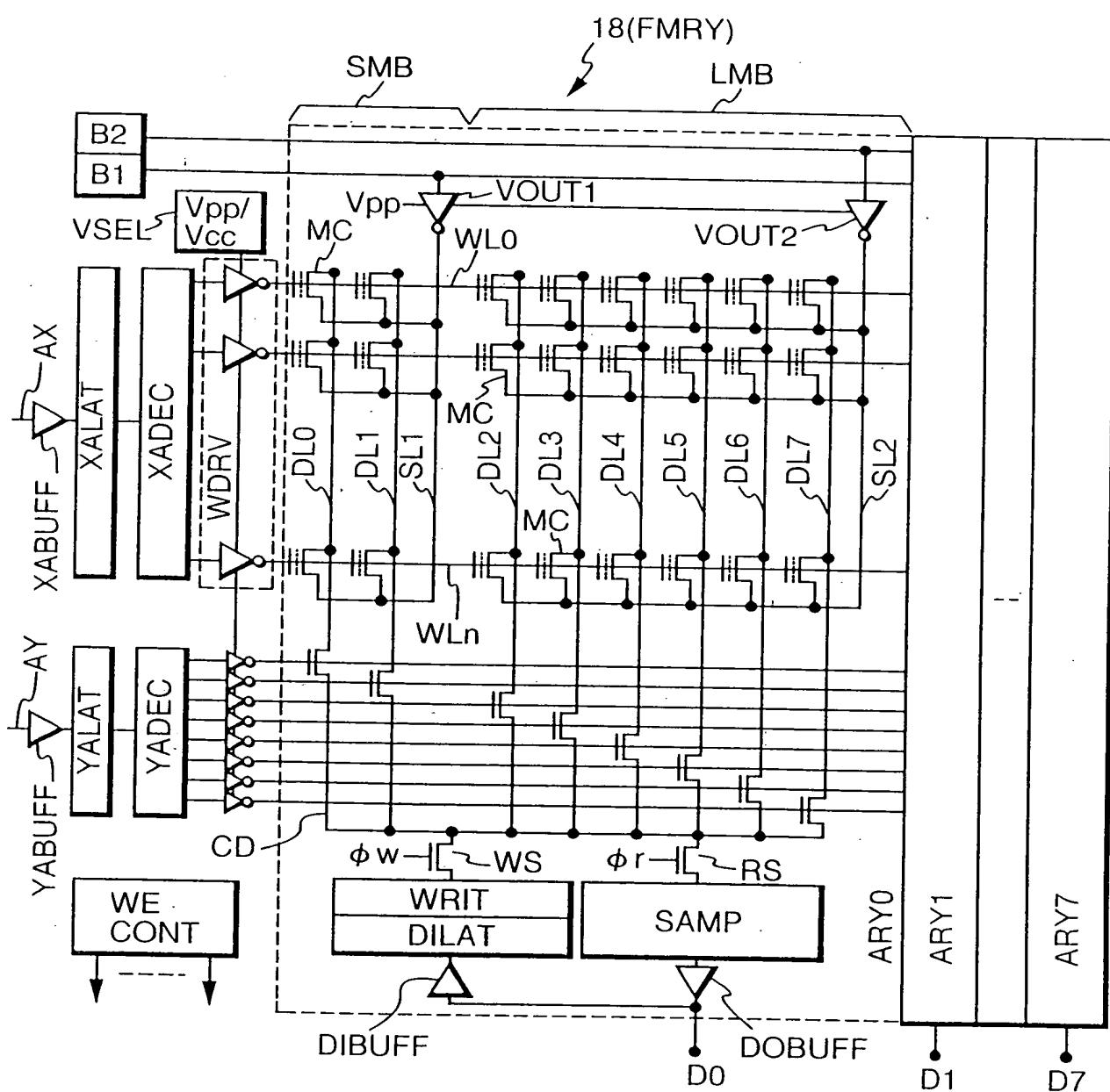


FIG. 18

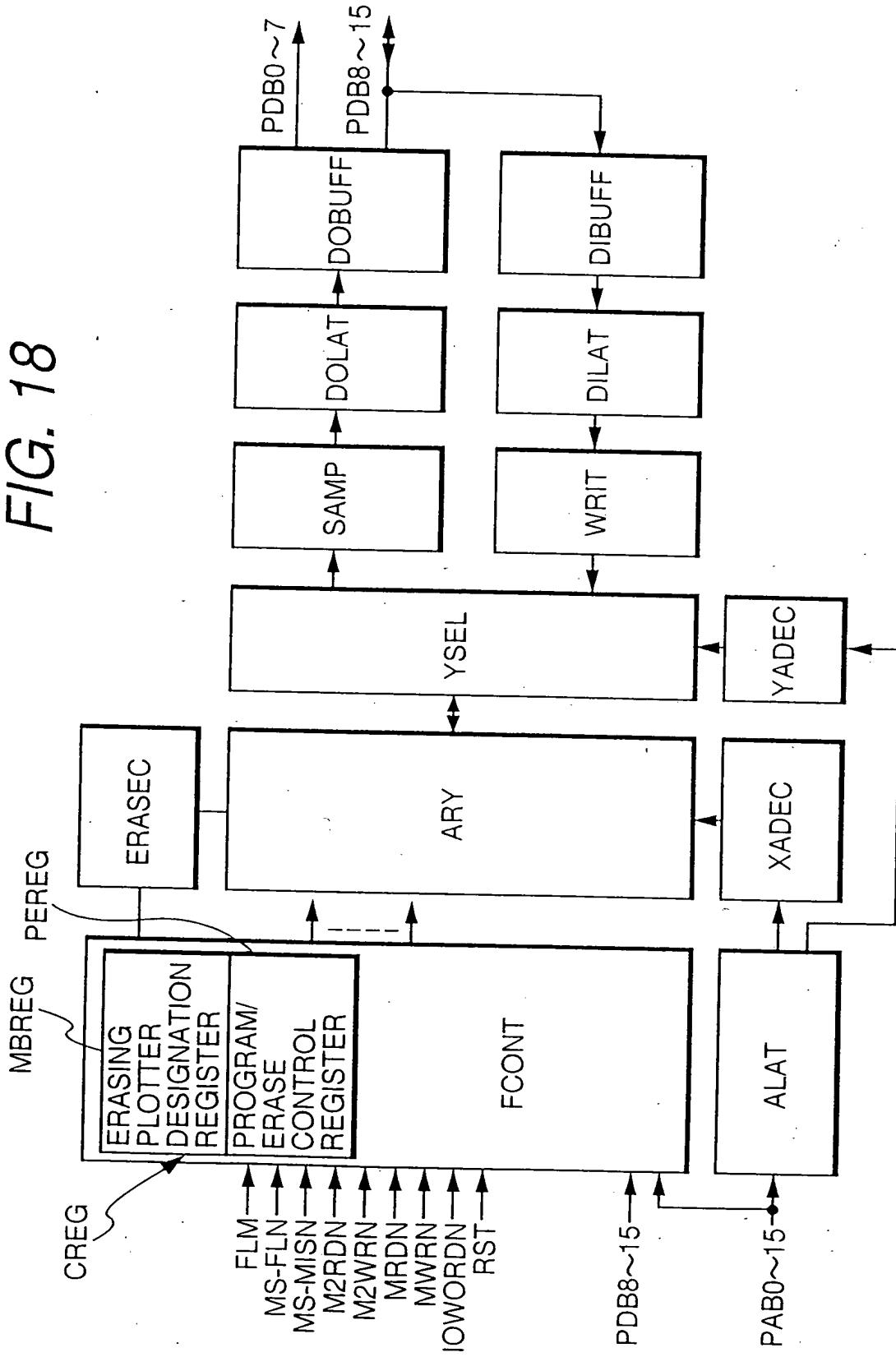


FIG. 19

CONTROL REGISTER

PROGRAM / ERASE CONTROL REGISTER

Vpp				EV	PV	E	P
-----	--	--	--	----	----	---	---

PEREG

MBREG1

ERASING BLOCK DESIGNATION REGISTER

	6	5	4	3	2	1	0
--	---	---	---	---	---	---	---

MBREG2

ERASING BLOCK DESIGNATION REGISTER

7	6	5	4	3	2	1	0
---	---	---	---	---	---	---	---

Vpp : Vpp APPLYING FLAG

E : ERASE
P : PROGRAM

EV : ERASE VERIFY

PV : PROGRAM VERIFY

MBREG1 : FOR DESIGNATION OF LARGE BLOCK
MBREG2 : FOR DESIGNATION OF SMALL BLOCK